# City of Murfreesboro Historic Zoning Commission Regular Meeting February 19, 2019

- I. Call to Order and determination of a quorum
- II. Approve Minutes of the Regular Meeting June 19, 2018 and January 1, 2019.
- III. New Business:
  - H-19-002 320 East College Street, request to install solar panels
- IV. Staff Reports and Other Business
- V. Adjourn

City of Murfreesboro
Historic Zoning Commission
Staff Comments
Regular Meeting February 19, 2019

#### III. New Business

#### H-19-002 320 East College Street, request to install solar panels.

Applicant plans to install solar panels on the roof in the rear of the structure. Applicant states the panels will not be visible from the street in the front of the house. A site plan has been submitted showing the location of the panels.

This property is located on the south side of East College Street just one lot from the intersection at North Academy Street. The house was constructed circa 1855 in the Arts and Crafts style architecture with patterned shingling and a gabled roof. This house is a contributing structure in the East Main Street Historic District of the National Register of Historic Places.

The property was purchased by the applicants in November 2017 and has undergone renovations since that time. This property was approved for renovations at the June 19, 2018 Historic Zoning Commission. The approval encompassed:

- Adding a porte-cochere with a storage closet to the east side of the house
- Adding a screened back porch with a workshop addition to the rear and west side of the house
- Adding flower boxes to windows

- Replacing stucco with natural cut stone veneer
- Restoring original windows
- Completing cedar brackets
- Refinishing of the front porch and adding stairs leading to the driveway
- Replacing concrete walkway leading to the front porch
- Adding a 3-foot-tall fence around the rear of the property

Photographs of the subject property along with a site plan have been submitted for the Commission's review. The applicants will be in attendance at the meeting to answer any questions the Commission may have regarding the request.

Historic Zoning District Guidelines define alterations as follows,

"Alteration: A change in building material; the addition of any architectural feature of a structure; a repair that reconstructs any part of an existing building; an addition that extends or increases floor area or **height** of any building; addition of accessory structures"

Staff interprets the addition of the solar panels as extending the height of the structure and therefore under the purview of the Commission. Excerpts from the guidelines that are pertinent to this application are included below for your convenience.

The guidelines state general principles to be followed for alterations. They are as follows,

#### "General Principles

These Guidelines shall apply only to the exteriors of buildings and to areas of lots visible from public rights of way.

Proposal for exterior work to be done on facades visible from the public right-of-way shall be more carefully reviewed than are other facades.

The distinquishing original qualities or character of a building, structure, or site and its environment shall not be destroyed. The removal or alteration of any historical material, or distinctive architectural features, should be avoided.

All buildings, structures, and sites shall be recognized as products of their own time. Alterations that have no historical basis and which seek to create an earlier period are discouraged.

Changes, which may have taken place in the course of time, are evidence of the history and development of a building, structure or site and its environment. These changes may have acquired significance in their own right, and this significance shall be recognized and respected.

Distinctive stylistic features or examples of skilled craftsmanship, which characterize a building, structure, or site, shall be treated with sensitivity.

Deteriorated architectural features shall be repaired rather than replaced, whenever possible. In the event replacement is necessary, the new material should match the material being replaced in composition, design, color, texture, and other visual qualities. Repair or replacement of missing architectural features should be based on accurate duplications of features, substantiated by historical, physical, or pictorial evidence rather than on conjectural design or the availability of different architectural elements from other buildings or structures.

The surface cleaning of structures shall be undertaken with the gentlest means possible. Sandblasting and other cleaning methods that damage historic building materials shall not be undertaken. Every reasonable effort shall be made to protect and preserve archeological resources affected by or adjacent to a project.

Contemporary design for alterations to existing properties shall not be discouraged when such alterations do not destroy significant historical, architectural, or cultural material; and when such a design is compatible with the size, scale, color, material and character of the property, neighborhood or environment.

Whenever possible, alterations to structures shall be done in such a manner that if such alterations were to be removed in the future, the essential form and integrity of the structure would unimpaired.

#### Guidelines"

...

#### "2. Roofs:

Original roof pitch and configuration should be maintained."

...

#### "7. Material:

Original building materials include wood, brick, stone, terra cotta and stucco. Original roof materials include slate, metal and on twentieth century buildings, composition shingles.

Original buildings and roofing materials should be retained. If replacement is necessary, it should be with original materials or close visual approximations of the original."

## HISTORIC ZONING COMMISSION Regular Meeting

December 18, 2018

MEMBERS PRESENT:

ABSENT:

Jim Thompson, Chairman David Becker, Vice-Chair Rick Cantrell Gib Backlund Bill Jakes Linda Anderson Debra Belcher Marimae White Jennifer Garland

#### STAFF PRESENT:

Dianna Tomlin, *Principal Planner* David Ives, *Assistant City Attorney* Lexi Stacey, *Recording Assistant* 

Vice-Chair Becker called the meeting to order at 3:30 p.m.

Chairman Thompson was present but did not participate in any discussion.

Mr. Cantrell made a motion to approve the minutes from the June 19, 2018 meeting as submitted. The motion was seconded by Ms. Belcher and carried unanimously in favor.

#### **New Business:**

<u>H-18-003</u> – **450** East Main Street, Mr. Bert McCarver request to demolish two existing accessory structures and to demolish or relocate an existing smaller home located to the rear of the main house.

Ms. Tomlin reviewed the application and the Staff comments contained in the HZC agenda package.

Vice-Chair Becker read the Rules of Demolition in the Historic District contained in the HZC agenda package.

Mr. Cantrell asked if the subject property is all one lot of record.

Ms. Tomlin said yes.

Mr. Cantrell verified the zoning classification allows for the number of units on it or is there some nonconformance with the zoning classification.

Ms. Tomlin said there is probably some nonconformance adding the zoning for this property is RS-15 and RS-8. She said the three units discussed today are currently not occupied and thinks they are used as storage units.

Mr. Cantrell asked if the property is at the max density allowed on the property as it sets today.

Ms. Tomlin was not sure but thinks it may not be at the max density.

Mr. Cantrell asked if that is true because of the RS-8 zoning at the back of the property.

Ms. Tomlin agreed.

Mr. Burt McCarter at 1607 Georgetown Lane came to the podium. Mr. McCarter said he would like to knock the houses down or as an alternative sell them to be removed off the property. He attached an inspection report with the yellow house. When he was in the process of purchasing the property, he hired an Inspector to come out and evaluate the property. He said the exterior of the yellow house looks neat, nice and has some value but the Inspector (Mr. Baker) said the house was worthless. The report showed yellow house has significant serious problems such as foundation and asbestos problems along with many other issues. Mr. McCarter had three contractors also look at the house and two out of the three told him to plow the house down as it has no value. They said it would be significant financially to make it habitable. Mr. McCarter asked the contractors what it would take to make the yellow house habitable. One of the contractors said just to be able to live in it, it would take a minimum of \$200,000. He said that would not be bringing it to the standard of what he is hoping they could do with 450 East Main. He said it would cost \$250-\$350 per square foot to make it habitable. Mr. McCarter said he has owned this property for 6-8 months and realizes there are certain aspects of living on Main Street that are a security risk. He said they have called law enforcement to come to the yellow house as street / transit people have been found in the house. He expressed concern for his family as there are several entrances to the property that causes security risks to the property.

Mr. McCarter said the one-car vinyl garage does not add any value to the property. The other building does not add value to the property and is about to fall in.

Mr. McCarter said he would be glad to answer any questions from the Commission.

Vice-Chair Becker clarified the Commission is being asked to approve demolition of three structures.

Mr. McCarter agreed.

Vice-Chair Becker said if there is approval to demolish the structures, Mr. McCarter would need to come back before the Commission to present his plans for the property.

Mr. McCarter agreed.

Mr. Cantrell asked if the costs for the repair are verbal that you received from the two or three contractors that looked at it.

Mr. McCarter agreed.

Mr. Cantrell asked if the contractors worked thru Centric Architecture or yourself.

Mr. McCarter said Centric Architecture was not employed with him at that time. This took place while he was in negotiations with the previous homeowner, Mr. Bubba Hutson. Mr. McCarter hired Mr. Baker to do the inspection.

Mr. Cantrell asked if this property has ever been before the Commission.

Vice-Chair Becker said not to his knowledge.

Ms. White said yes. She said Mr. & Mrs. Denny Hastings bought the subject property from Ms. Wood around 1995. She said they spent about two years renovating the house. She said the white vinyl structure was built for a tool shed / garage around 1995 by the Hastings.

Vice-Chair Becker verified the white vinyl structure was approved by the Commission with vinyl siding.

Ms. White said she does not know if it came before the Commission for approval.

Vice-Chair Becker asked Ms. White if she knew when the other brick structure was built.

Ms. White said no.

Mr. Jakes said he has researched this property and said the carriage house was the beginnings of that brick structure. He said it shows on the Sanborn map in 1914 as just a carriage house. By 1924, the "L-shape" addition was added to the back. He said it turned into a residential space at some point.

Ms. White said it was rented when Ms. Wood lived there. This house and the yellow house has been rented or inhabited on and off for the last ten years when Mr. Hutson owned the property. She said before Mr. Hutson purchased the property, the yellow house was used as office space.

Vice-Chair Becker said the house at 116 South Highland Avenue not original to the property.

Mr. Jakes said the yellow house is original to Main Street. He said Matthias Brickle Murphy owned the property, the third owner was Mumford Fletcher Jordan and the structure appears on the 1878 Beers Map facing East Main Street. Mr. Jordan purchased the property (Vine Street and Main Street lots) in 1870 which was one lot originally. He said sometime between 1870 and 1878 is most likely when the yellow house was built. Mr. Jakes said the front of the house has an Italian A front much like other buildings from that area.

Vice-Chair Becker started the discussion with the vinyl structure.

Mr. Jakes said the vinyl structures is non-contributing and non-conforming.

# Mr. Cantrell made a motion to approve the demolition of the vinyl structure. The motion was seconded by Ms. Garland and carried unanimously in favor.

Vice-Chair Becker moved on with the carriage house that was originally built as a carriage house around 1914.

Mr. Jakes said the original character of the house has been lost and the structural integrity as well. He said it is old enough to save.

Vice-Chair Becker said most of the carriage houses along East Main have disappeared.

# Mr. Cantrell made a motion to approve the demolition of the carriage house. The motion was seconded by Mr. Jakes and carried unanimously in favor.

Vice-Chair Becker referred to the yellow house located at 116 South Highland Avenue. He said this house originally faced East Main Street and built around 1878.

Mr. Cantrell referred to a request that came before the Commission earlier this year for a demolition on College Street. He said the decision came down to an economic situation that the Commission approve the demolition. The applicant for that property brought quotes to the Commission for the demolition. She was taking the roof off the house for it to be habitable at all.

Ms. Anderson said the house on College Street was not a contributing factor to the Historic District. Ms. Anderson asked if Mr. McCarver has thought about converting the yellow house into a pool house.

Mr. McCarver said, as Vice-Chair Becker mentioned, he is not here for that today. He has not received a quote for the pool house. He asked if she was suggesting moving the yellow house.

Ms. Anderson said according to the site plan submitted by Mr. McCarver the proposed pool looks to be located close to the back side of the yellow house. She said the Commission must be careful about allowing demolition in the Historic District. She said the Commission has made some mistakes in the past. Ms. Anderson said the Commission has never had anything come before them this old and contributing to our Historic District. She said this is serious and the Commission does not need to look at this lightly. Ms. Anderson said if the yellow house is approved to be moved or demolished, the Commission would be setting a precedence. She said this house can be refurbished and the Commission needs to talk about it.

Mr. McCarver said anything can be done if you are willing to pay for it. One of his biggest concerns is the security risks at this house because there are several entrances on the corner of Vine and Highland.

Ms. White said Highland Avenue and Vine Street is not the greatest corner.

Mr. Jakes asked Mr. McCarver if he intends to fence the lot.

Mr. McCarver said yes.

Vice-Chair Becker said whether the yellow house is demolished or not, the security situation should be resolved at 116 South Highland Avenue once the fence is installed all around the property.

Mr. McCarver said he cannot put the fence around the perimeter because the house is there.

Vice-Chair Becker asked if there was not any room to install the fence on Vine Street because the house is so close to the sidewalk.

Mr. McCarver said there may be enough room, but it is not something he is interested in doing as an owner.

Ms. White spoke in detail about the subject property stating it has deteriorated over the past ten years. She is very excited about the plans Mr. McCarver has for this property.

Mr. Jakes said since the yellow house is located on a corner, it has a 30-foot setback. He verified nothing could be built with that 30-foot setback, like an addition.

Ms. Tomlin said that nothing could be built within the 30-foot setback.

Mr. Ives said it possibility could be built in the 30-foot setback, adding in 1984 a Suburban Zoning was adopted for the entire downtown area. He said the yellow house is a legal, nonconforming structure pertaining to the setback as it was way before the Zoning Ordinance

went into effect. Mr. Ives said the HZC and Planning Commission have approved a variety of variances from the zoning setbacks for this part of town when replacing something to go back where it was or to be consistent with the rest of the neighborhood. He said Staff is currently working on an addition to the City Core Overlay which will have some other setback discussion in it to accommodate a part of our community that was built before we adopted suburban zoning. Mr. Ives was not saying you could build it back but there is a possibility they could.

Mr. Jakes said the point he was trying to make was if not this house, nothing else could go back in that space. He said the applicant's plans call for trees and landscaping in the space which would not take away a lot of the space the applicant needs to use. He said the removal of the house is just because of the house condition.

Mr. McCarver said that is correct.

Mr. Jakes pointed out asbestos siding would not pose any threat to anybody. He said it is only threatening if you breath it. Mr. Jakes said you can get non-asbestos reproductions of those tiles. He referred to the foundation stating this is a pier-based house and doesn't have a solid foundation. The foundation was added after the house was moved and there are only a few points to support this adding the floor joist and things like that are variables. The real foundation of the home on this gable front and wing style house with the logs underneath it was literally picked-up and moved once before. He felt like the house could be brought back as it doesn't require a new foundation and could be put back up on piers. He said the house is a classic example of Rutherford County architecture. Mr. Jakes said it is a real struggle to see a reason to remove this structure.

Mr. McCarver said he understands.

Ms. Anderson said she is sorry Mr. McCarver is having trouble with vagrants and people entering your property. She assumed Mr. McCarver reviewed the regulations in the Historic District before purchasing the property.

Mr. McCarver said he interviewed Ms. White asking what the crime is like in the area and what is it like living downtown. He said she was candid and honest stating she has only had one issue and was comfortable with what she advised him about. He also spoke with Ms. Ishad and Mr. Smith stating neither had any issues.

Ms. White said if you live there, you need to make it secure for your children, yourself and your dogs. She said that is why they built their fence and their garage.

Vice-Chair Becker said to secure the lot, he could incorporate 116 South Highland Avenue. He said there is plenty of room off South Highland Avenue to install a security fence going in front of that house and if it is wrought iron and brick would show the style of the house.

Ms. White said the applicants do not want to put that much money into the yellow house.

Ms. Garland said she is struggling with the fact that the home is listed as a contributing factor in the Historic District. She said when you drive by it, you look at it and appreciate it. When you look at the Guidelines which say: "It is appropriate to demolish, if and when the building has lost its architectural and historic integrity." Ms. Garland said she could not say the house has lost that. She said it is a piece of history and it is sitting there. Ms. Garland said she understands the constraints it brings with security, but she hoped the Commission would support whatever changes the applicant could bring forward to update and add whatever it takes to make the corner secure. She realizes it takes money to do that, but it also takes money to demolish, build a pool and pool house as well.

Mr. Jakes asked Staff if there was anything limiting the applicant from putting a solid fence around the front of the yellow house.

Ms. Tomlin said she knows a fence would be fine along the sides. She asked Mr. Anthony if a fence could go in the front of the yellow house if it had a gate.

Mr. Anthony said fencing is subject to review of this HZC.

Mr. Jakes said the house is not currently occupied so it is considered an accessory structure now.

Mr. Ives said assuming the house stays, it would depend on what the applicant wishes to do with it (rent or use as an accessory structure). The HZC would need to review the fence plans after determining the use of the house.

Mr. Cantrell informed Mr. McCarver, as an alternative to his current plans, he could subdivide the property, make a separate lot of record for the yellow house and sell it. He asked Ms. Tomlin if anyone from the Building and Codes Department reviewed the structural report for the yellow house.

Ms. Tomlin said no as the structural report came from the applicant.

Mr. Ives said if the lot were subdivided and the house sold, the new owner would be looking at the same issue.

The Commission agreed.

Mr. Cantrell said the new owner might want to proceed with a rehab.

Mr. Jakes said the way the structure sets on the corner in an "L-shape", it would add some great privacy to the proposed pool area.

Ms. Garland said she appreciates Mr. McCarver's proposed investment in the property and whatever he decides to do will greatly improve the area.

Vice-Chair Becker opened the floor for a public hearing. There being no one to speak the public hearing was closed.

Ms. White made a motion to demolish 116 South Highland Avenue. The motion was seconded by Mr. Cantrell. The motion was denied demolition with a 2 yes and 6 no vote.

Ms. Tomlin asked the Commission to approve the 2019 Historic Zoning Commission Calendar.

Mr. Cantrell made a motion to approve the 2019 Historic Zoning Commission Calendar as submitted. The motion was seconded by Ms. Garland and carried unanimously in favor.

Ms. Tomlin also introduced Mr. Donald Anthony as the new Planning Director.

Mr. Anthony came to the podium and thanked the Commission for their service. He mentioned there have been a lot of staff changes in the Planning Department and Ms. Tomlin will be their direct contact for Historic Zoning now. Mr. Anthony also will be available if you want to contact him.

CHAIRMAN	SECRETARY	
The meeting was adjourned at 5:0	04 p.m.	

## HISTORIC ZONING COMMISSION Regular Meeting January 15, 2019

MEMBERS PRESENT:
Jim Thompson, Chairman
David Becker, Vice-Chair
Rick Cantrell
Marimae White
Gib Backlund
Bill Jakes
Linda Anderson
Jennifer Garland

ABSENT: Debra Belcher

#### STAFF PRESENT:

Dianna Tomlin, Principal *Planner* Brenda Davis, *Recording Assistant* 

Chairman Thompson called the meeting to order at 3:30 p.m.

#### **New Business:**

<u>H-19-001</u> – 933 East Main Street – Craig and Anna Stewart are requesting to remodel the exterior of the home by expanding the kitchen area.

Ms. Tomlin reviewed the application and the Staff comments contained in the HZC agenda package.

Mr. Fletcher Holland lives at 2212 Shannon Drive came to the podium stating he was the contractor for the Stewarts at 933 East Main Street. He said the owners wish to add a 250-square foot addition to the back of the house.

Chairman Thompson asked how he planned to match the brick since the house is so old.

Mr. Holland said the brick currently on the house will be salvaged and used. Since there not enough salvaged brick for the whole addition, he is working with Allen Cassidy to find the closest match. Mr. Holland said they intend to use the salvaged brick on the face that is extends and the new brick will be used on the new face. This will make a clean break at the corners.

HZC Minutes January 15, 2019

Chairman Thompson suggested installing a down-spout at the corner to help hide the brick change.

Vice-Chair Becker made a motion to approve a remodel to the exterior of the home by expanding the kitchen area at 933 East Main Street. The motion was seconded by Ms. Anderson.

Mr. Jakes asked Mr. Holland if he intended to match and extend the iron-work located on top of the sunroom area.

Mr. Holland said yes.

The motion was unanimously approved.

#### **City Core Overlay**

Ms. Dianna Tomlin gave a brief presentation on the City Core Overlay.

Vice-Chair Becker made a motion to adjourn. The motion was seconded by Mr. Jakes and carried unanimously in favor.

The meeting adjourned at 3:55 P.M.

CHAIRMAN	SECRETARY	

# **Murfreesboro Historic Zoning Commission Application for Certificate of Appropriateness**

City of Murfreesboro Planning Department P.O. Box 1139 111 West Vine Street Murfreesboro, Tennessee 37130	Revised:
Property Address 320 East College Street, Murfrees	sboro, TN 37130
Applicant_Silas McRae	Contact Phone(s) (919) 830-9845
E-Mail Address smcrae@lightwavesolar.com	
Mailing Address_3026 Owens Drive	
City_Antioch State_TN	Zip Code 37013
Property Owner (If different than above) Steve Poles	kyContact Phone_(615) 397-0616
Mailing Address 320 East College Street	
City_Murfreesboro State_TN	Zip Code 37130
"Only exterior projects visible fro	om a public right-of-way (R-O-W) are reviewed"
TYPE OF WORK: New Const	Demolition Alterations Solar Other
Exterior Repairs/N	Maintenance, <b>no</b> appearance changes (Administrative)

- **NEW CONSTRUCTION** (Additions are considered new construction)
- 1. Site plans must show entire lot with setbacks noted and site improvements (e.g. sidewalks, lighting)
- 2. Elevation drawings must show each façade with dimensions and material specifications
- 3. Front elevations must include adjacent principal structures (to compare size and scale)
- 4. Applications should include photographs, samples, product literature, manufacturer's illustrations, etc.

#### **DEMOLITION**

- 1. Application must include written description of structure's condition and reason for demolition.
- 2. Photographs must include structure's current condition showing all elevations and the interior of structure.
- 3. Provide a description of the proposed reuse of the site to include plans of the new structure.

ALTERATIONS (Chec	k each item of work to be done. If	not listed please fully explain in s	pace provided below)
awning or canopy	light fixtures	porch flooring	shutters
cleaninglandscaping		railings	siding
curb cut			signs
deck	mechanical system	retaining wall roofing	skylights
door	ornamentation	satellite dish	steps
fence	painting	security doors	storm doors
general repair	paving	security windows	storm windows
gutters	porch columns	sidewalks	windows
Description of all work to	o be performed (You may use a	additional pages if needed)	
Solar Panels are going t	to be added to the roof on the re	ear of the building not visible	from the street in front of the
house.			
Commission <b>prior</b> to begin	ion of work shown on the applicat uning the work. When necessary, te plans are needed for review. The	accurate scale elevations, drawin	ngs, photographs, brochures,
Council must be approve	another body such as the Boed <b>prior</b> to submittal to the Cohe representative must have the by the Commission.	ommission. Someone must b	e present at the meeting to
	at least one inspection prior to schedule the inspection.	to completion of the project.	Please call the Planning
	urn application to the Planning ing of the Murfreesboro Histor		
"All	applications must include doo the proposed exterior ap	cumentation that clearly illuppearance of the project"	strates
Estimated cost of work	\$19,962		
Signature (owner) Steve			
Signature (applicant) Signature	las McKae		

#### REMAINDER OF APPLICATION TO BE COMPLETED BY STAFF

Application Received by		Date	
Application approved	Date		
Application approved wit meeting and in a letter from the		itions. Conditions will be shown in the Minu	ites of the
Application denied for the meeting and in a letter from the		The reason for denial will be shown in the M	linutes of the
Application administratively app	proved by:	Date	
<u>INSPECTIONS</u> : Approvals fro	om the Commission r	require at least one (1) inspection.	
1.) Approved	Failed	Date	
2.) Approved	Failed	Date	

# POLESKEY, STEVE

5.8kW-DC (STC) SOLAR PHOTOVOLTAIC SYSTEM 320 EAST COLLEGE ST MURFREESBORO, TN 37130



### **INDEX OF DRAWINGS:**

G1.0 - TITLE SHEET PV1.0 - SITE PLAN

PV2.0 - SOLAR PV LAYOUT
E1.0 - SINGLE LINE DIAGRAM
E2.0 - STRINGING LAYOUT
E3.0 - SOLAR RISER DIAGRAM

## SYSTEM DESCRIPTION:

DC SYSTEM SIZE: 5.8kW-DC (STC)
MODULES: (20) REC REC290TP2

AZIMUTH: 186°, 96° TILT: 26°

RACKING: UNIRAC SOLARMOUNT WITH GREENFASTEN

INVERTER(S): (1) SOLAREDGE SE5000H-US
DC OPTIMIZERS: (20) SOLAREDGE P320
MONITORING: SOLAREDGE TBD

POLESKEY, ST
PROJECT ADDRESS
320 EAST COLL!
MURFREESBORO,
SHEFT TITLE

LIGHTWAVE

SIND IN A CONTROL OF THE PROPERTY OF LIGHTWAVE. NO PART IS TO BE DISCLOSED TO DETERMINE THE PROPERTY OF LIGHTWAVE. NO PART IS TO BE DISCLOSED TO DETERMINE THE PART IS TO BE DISCLOSED TO DETERMINE THE PART IS TO BE DISCLOSED.

PROJECT NUMBER

DRAWN BY
MJP

1/8/2019

ORIGINAL SIZE
11"X17"
SHEET SIZE

ANSI\_B

SCALE

NTS

DRAWING

G1.0



SOLAR PV SYSTEM SUMMARY:			
(20)	REC 290W SOLAR MODULES = 5.8kW-DC (STC)		
(2)	STRING(S) OF (10) MODULE/OPTIMIZER PAIRINGS WIRED IN SERIES		
(1)	5kW INVERTER(S) MODEL #SE5000H-US BY SOLAREDGE		
(20)	P320 DC OPTIMIZERS BY SOLAREDGE		
AZIMUTH	186°, 96°		
TILT	26°		
MONITOR	SOLAREDGE TBD		

PV MODULE SPECIFICATIONS:						
		F	REC REC290TP2			
MECHANICAL			ELECTRICA	ELECTRICAL		
HEIGHT:	65.945	INCHES	Рмр:	290	WATTS	
WIDTH:	39.252	INCHES	V <sub>MP</sub> :	32.1	VOLTS	
DEPTH:	1.5	INCHES	Імр:	9.05	AMPS	
WEIGHT:	40.8	LBS	Voc:	38.8	VOLTS	
			lsc:	9.71	AMPS	
			T <sub>COEFF</sub> Voc:	-0.30	%/°C	
			T <sub>COEFF</sub> Isc:	0.066	%/°C	

INVERTER SPECIFICATIONS:					
	SOLAREDGE SE5000H-US {TL}				
MECHANICAL			ELECTRICAL		
HEIGHT:	17.7	INCHES	AC POWER (NOMINAL):	5	KWATTS
WIDTH:	14.6	INCHES	AC VOLTAGE: (NOMINAL):	240	VOLTS
DEPTH:	6.8	INCHES	AC CURRENT (CONTINUOUS):	21	AMPS
WEIGHT:	26.2	LBS	DC VOLTAGE (NOMINAL):	380	VOLTS
			DC VOLTAGE (MAX):	480	VOLTS
			DC CURRENT INPUT (MAX):	13.5	AMPS

LIGHTWAVE

DESCAMPEN

THIS DISCLAIMER

THIS DISCLAIMER

THIS DISCLAIMER

THIS DISCLAIMER

THIS DISCLAIMER

PROJECT NUMBER

MJP

DATE 1/8/2019

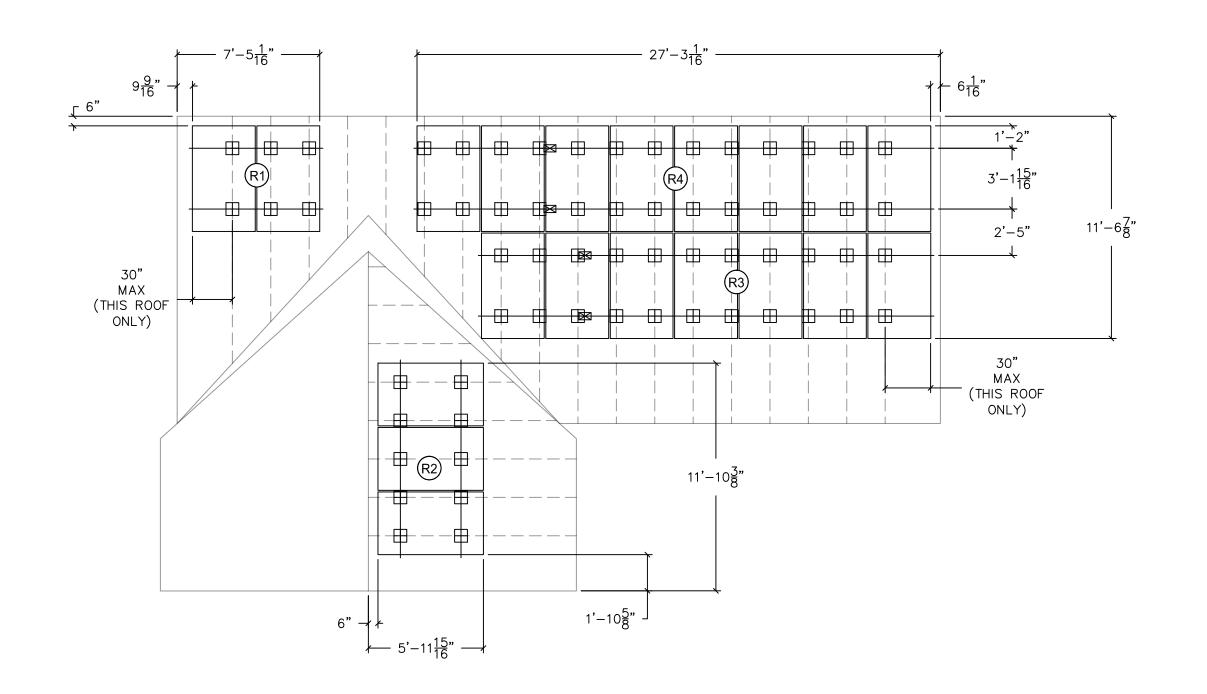
ORIGINAL SIZE
11"X17"
SHEET SIZE
ANSI\_B

SCALE AS NOTED

AS NOTEL

PV1.0

Plan View
Scale: 1" = 10'





AZIMUTH = 186°, 96°

	RAIL RUNS & QUANTITIES:						
RAIL RUN NAME RAIL RUN QUANTITY			240" RAIL CUTS	TOTAL LENGTH	NOTES		
R1 2		2	83.5"	83.5"	USE R2 EXCESS		
	R2	2	123.75"	123.75"	(2) FULL = (2) 123.75" & (2) 116.25" EXCESS		
	R3	2	218" + 67"	285"	(1) R4 EXCESS = (2) 67"		
	R4	2	240" + 85"	325"	(2) FULL = (2) 85" & (2) 155" EXCESS		

FULL RAILS NEEDED -->

SOLARMOUNT

1. RAFTERS SPACED 24" ON CENTER

2. ATTACHMENT POINTS TO BE MOUNTED 24" ON CENTER MAXIMUM.

3. MAX RAIL CANTILEVER = 1/3 ADJACENT RAIL SPAN LENGTH.

4. \*\*\*DRILL PILOT HOLES FOR LAG BOLTS. BIT SIZE SHALL BE: 5/32" OR 3/16"

1		P
1	$\mathcal{F}$	

Plan View

Scale: 1" = 5' PV2.0

POLESKEY, STEVE
POLESKEY, STEVE
PROJECTADDRESS
320 EAST COLLEGE ST
MURFREESBORO, TN 37130 B . . . . . . . . . . PROJECT NUMBER R0907

LIGHTIWAVE

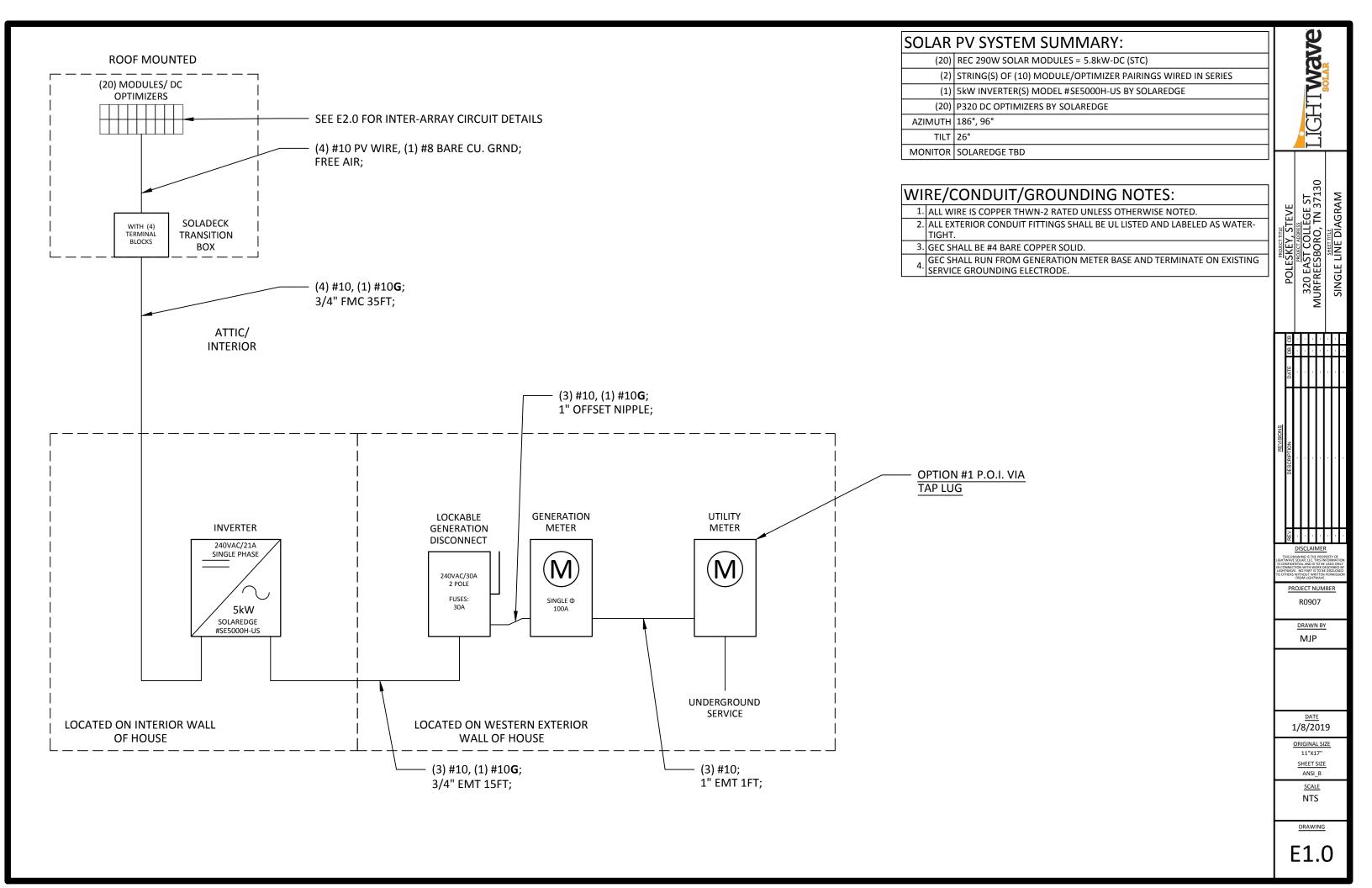
DRAWN BY MJP

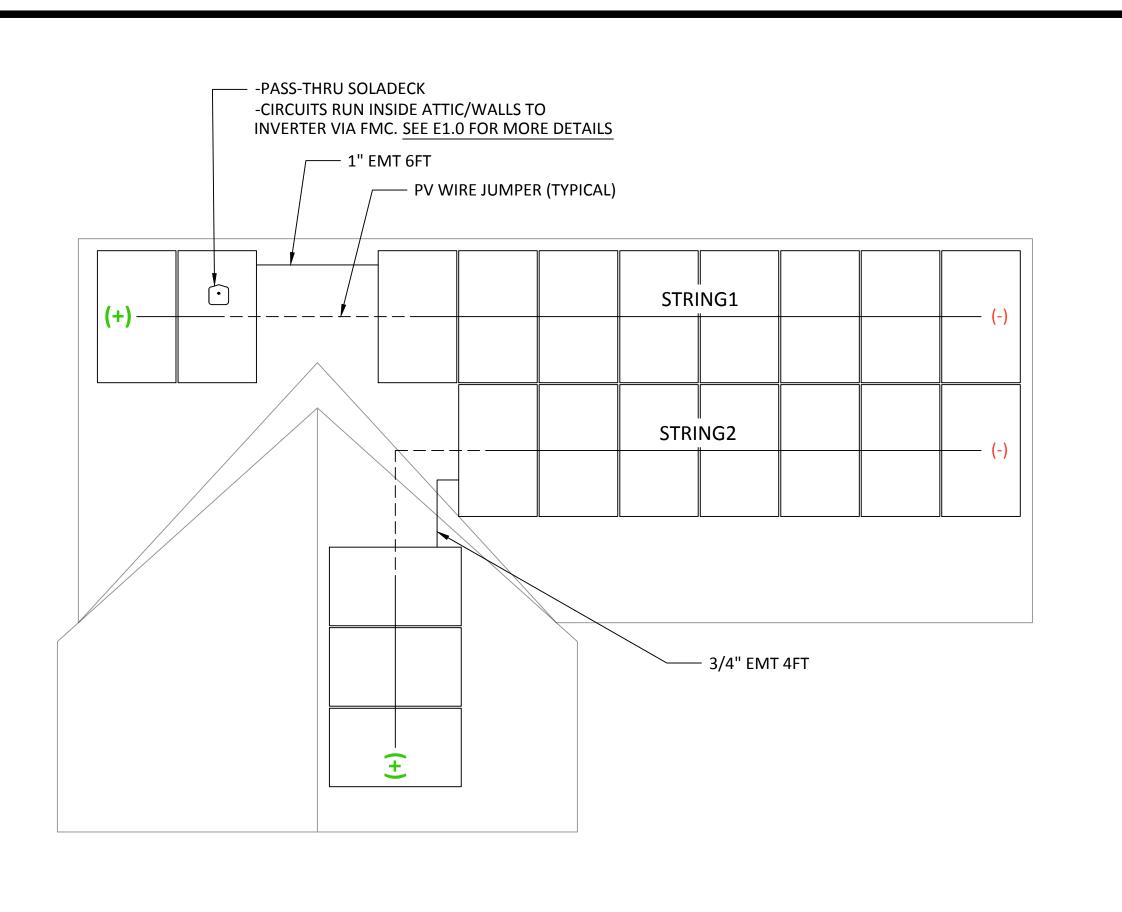
1/8/2019

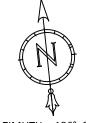
ORIGINAL SIZE 11"X17" SHEET SIZE ANSI\_B

AS NOTED

DRAWING







AZIMUTH = 186°, 96°

DESCRIPTION
DATE DE CB
PROJECTADORESS
320 EAST COLLEGE ST
MURFREESBORO, TN 37130
SHETTITE
STRINGING LAYOUT

LIGHTWAVE

DISCLAIMER
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ONNECTION WITH WORK DESCRIBED BY
THAVAY. NO PART IS TO BE DISCLOSED
THERS WITHOUT WRITTEN PERMISSION
FROM LIGHTWAYE.

PROJECT NUMBER

R0907

MJP

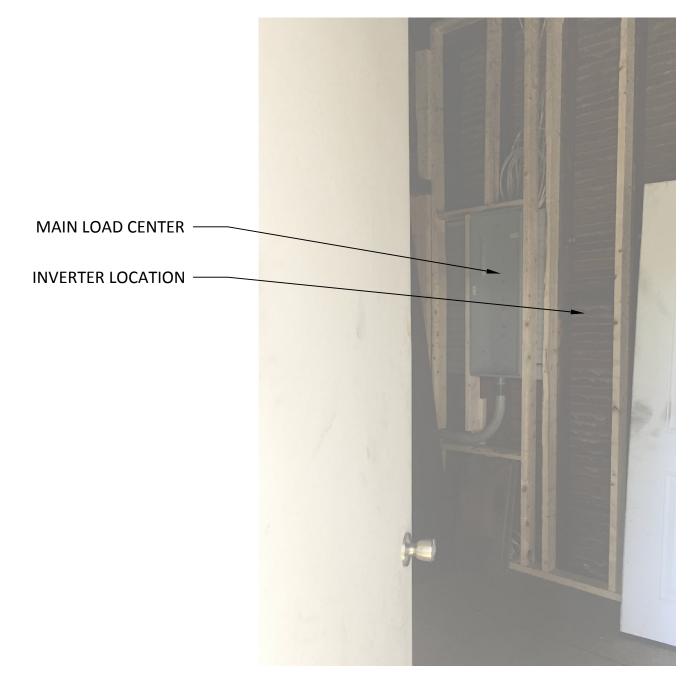
1/8/2019

ORIGINAL SIZE
11"X17"
SHEET SIZE
ANSI\_B

SCALE AS NOTED

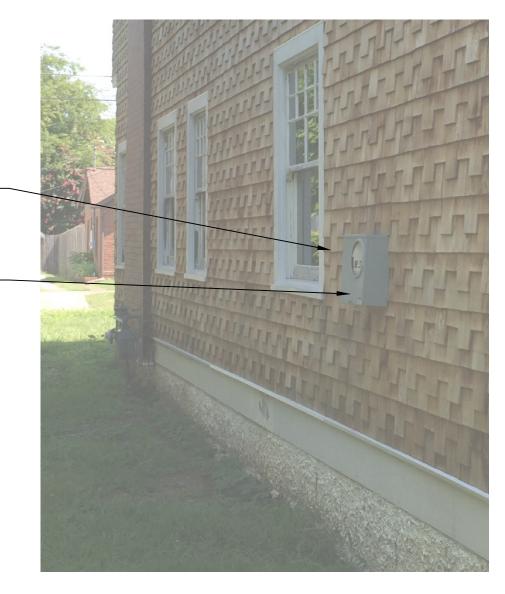
E2.0

Plan View
Scale: 1" = 4'



STACKED GENERATION METER & GENERATION DISCONNECT LOCATION

UTILITY METER/ P.O.I.



2 INVERTER ELEVATION
Scale: NTS

SERVICE ELEVATION

Scale: NTS

COLLEGE ST LIGHTWAVE SOLAR SOLAR SOLAR SOLAR

320 EAST COLLEGE ST MURFREESBORO, TN 3713 SOLAR RISER DIAGRAM

WAVE: NO PART IS TO BE DISCLOS
HERS WITHOUT WRITTEN PERMISSI
FROM LIGHTWAVE.

PROJECT NUMBER

R0907

DRAWN BY
MJP

1/8/2019

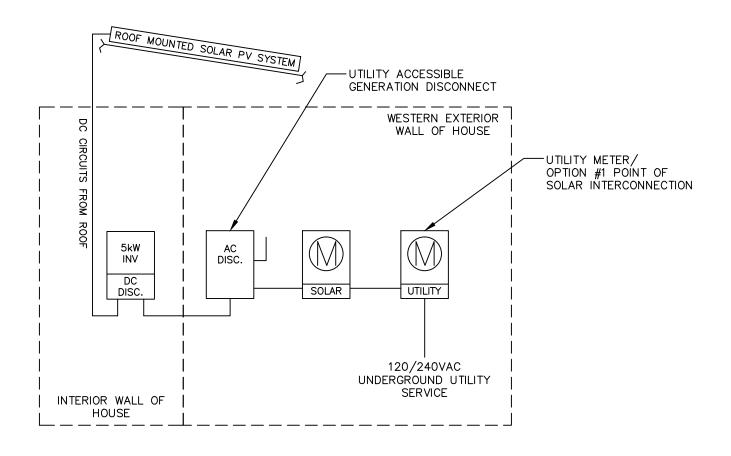
ORIGINAL SIZE
11"X17"
SHEET SIZE
ANSI\_B

SCALE AS NOTED

DRAWING

E3.0

## SOLAR PV SYSTEM DIAGRAM



#### SOLAR PV SYSTEM SUMMARY:

- (20) REC REC290TP2 SOLAR MODULES = 5.8kW-DC (STC)
- (20) P320 DC OPTIMIZERS BY SOLAREDGE
- (2) STRINGS OF (10) MODULE/OPTIMIZER PAIRINGS WIRED IN SERIES
- (1) 5kW INVERTER MODEL #SE5000H-US BY SOLAREDGE

AZIMUTH 186°, 96°

TILT 26°

#### SYSTEM ADDRESS: 320 EAST COLLEGE ST MURFREESBORO, TN 37130

LIGHTWAVE SOLAR 615-641-4050